

Amendments to the Specification:**In the Abstract:**

Please replace the abstract with the substitute abstract attached on a separate page at the end of this Amendment.

In the Specification:

Please amend the specification as follows:

Page 1, third paragraph (lines 26-35)

Conventionally, in the image forming apparatus for adding a specific hidden pattern, pattern, a hidden pattern must be added in case of inputting a usual original to output an image. In case of outputting a test pattern in a test mode and the like used for, e.g., adjusting the image forming apparatus, however, a problem occurs during adjustment if a hidden pattern using a color material of, e.g., yellow is added. Adding no specific hidden pattern may be convenient in terms of adjustment in some cases. Therefore, when a test pattern is outputted from the image forming apparatus, control is carried out so as not to add a specific hidden pattern.

Page 1, last paragraph (lines 36-37), continuing on page 2 (lines 1-14)

FIG. 1 is a block diagram showing a structure of a conventional hidden pattern addition mechanism in a color image forming apparatus. In FIG. 1, the conventional hidden pattern addition mechanism is constituted by a specific pattern generation portion 1 for generating a specific pattern; a first register $[[1]]$ 2 for generating a signal "0x00" (hexadecimal) as an addition prohibition signal directing to inhibit printing a specific hidden pattern on an output image; a second register 3 for generating by software a specific pattern addition signal as a control signal for adding a specific pattern; a selector 4 for respectively inputting the specific pattern signal as an input X, the signal "0x00" as an input Y and the specific pattern addition signal as a selective control input S to supply a specific hidden pattern from an output Q; and an adder 5 for receiving yellow image data as an input A and the output Q of the selector 4 as an input B.

Page 3, last paragraph (lines 28-37), continuing on page 4 (lines 1-15)

AB As a concrete structure, In one embodiment, the color image forming apparatus comprises: image data supplying means for supplying color image data; data existence/absence confirming means for confirming whether the image data exists in an image forming apparatus; hardware control signal supplying means for supplying a hardware control signal based on the existence/absence of the image data confirmed by the confirming means; software control signal supplying means for supplying a software control signal for adding a specific hidden pattern; control signal synthesizing means for synthesizing a control signal in such a manner that the specific hidden pattern is necessarily formed on a color image when a usual image is formed on the image forming medium based on the hardware control signal and the software control signal; hidden pattern generating means for generating the specific hidden pattern; test pattern generating means for generating and outputting a test pattern when no color image is formed; pattern selecting means for selecting and outputting one of the specific hidden pattern and the test pattern based on the control signal synthesized by the control signal synthesizing means; and image formation output signal synthesizing means for synthesizing outputting the color image data supplied from the image data supplying means and the specific hidden pattern selected by the pattern selecting means when the image data is inputted and for synthesizing outputting the test pattern selected by the selecting means when the color image data is not inputted.

Page 4, first full paragraph (lines 16-22)

AC The hardware control signal necessarily used for usual printing described herein means a signal which ~~affects addition of~~ controls whether or not the specific hidden pattern is to be added and also ~~prevents~~ controls to prevent a usual image from being formed when this signal is abnormal. Therefore, even if information which can be the basis for generation of this signal is set by software, the term "hardware control signal" is used for explanation in this specification.

Page 4, second full paragraph (lines 23-29)

With the above-described structure and operation, according to the color image forming apparatus of the present invention, since it is possible to ~~synthesize~~ output a control signal by which a specific hidden pattern which is obliged to be necessarily added when a color image is formed can be assuredly added based on existence of color image data, the specific hidden pattern can be surely added to the color image.

Page 5, last paragraph (lines 20-37), continuing on page 6 (lines 1-8)

FIG. 2 is a block diagram showing a schematic structure of a color image forming apparatus according to a first embodiment as a basic concept of the present invention. In FIG. 2, a hidden pattern addition mechanism 10 includes: image data supplying means 11 for supplying color image data; data existence/absence confirming means 12 for confirming the existence/absence of image data; hardware control signal supplying means 13 for generating and supplying a hardware control signal representing that data exists when the color image data is supplied and exists in the image forming apparatus; software control signal supplying means 14 for generating and supplying a software control signal for determining whether a specific hidden pattern is added to a color image; control signal synthesizing means 15 which is formed by, e.g., a logical operation circuit and synthesizes a control signal by which a specific hidden pattern is necessarily formed to an output image when one of the hardware control signal and the software control signal exists; hidden pattern generating means 16 for generating a specific hidden pattern; test pattern generating means 17 for previously generating a test pattern; pattern selecting means 18 for selecting one of the hidden pattern and the test pattern based on the control signal synthesized by the control signal synthesizing means 15; and image formation output signal synthesizing means 19 for outputting to, for example, a printer engine a ~~synthesized~~ an output signal obtained by combining the color image data supplied from the image data supplying means 11 and any pattern selected by the pattern selecting means 18.

Page 6, second full paragraph (lines 21-31)

27 On the other hand, the software control signal supplying means 14 also has the state "with signal (O)" as indicated by (1) and (3) and the state "without signal [[(')]] (X)" as indicated by (2) and (4). Here, as described above, since the hardware control signal compliments the erroneous operation when the software control signal includes an error due to a bug and the like, the software control signal controls so as to add a hidden pattern necessarily in the state of (1) when there is image data as in the states (1) and (2). Further, the software control signal may add a test pattern necessarily in the state of (4) in case of the states (3) and (4).

Page 6, last paragraph (lines 32-37), continuing on page 7 (lines 1-6)

28 If the software control signal is not outputted as in (2) of the block (14) even though the image data is supplied as in (2) of the block 11 of FIG. 3 or if the control signal for adding a hidden pattern is outputted as in (3) of the block 14 despite the fact that the image data is not supplied as in (3) of the block 11, it can be said that the software control signal includes an error. According to the operation of the first embodiment in such a case, providing, e.g., an OR circuit as the control signal synthesizing means 15 causes a logical operation such as described in the block 15 to be executed, and the pattern selecting means 18 outputs a pattern in dependence upon the ~~synthesized~~ supplied control signal.

Page 12, first full paragraph (lines 4-14)

29 As described above in detail, the hidden pattern addition mechanism according to the present invention is not used in case of outputting a test pattern which is inconvenient in adding a specific pattern as a control signal for adding a specific hidden pattern. Further, even if no addition of a specific pattern is set in terms of software due to problem in software, a hidden pattern can be necessarily added by a ~~hardware control signal by using the control signal which is necessarily used only for forming an image during regular printing and generated by hardware as well as the software control signal, thereby attaining improvement in security in the image forming apparatus~~ control signal synthesized by the control signal synthesizing means 15 which synthesize the hardware control signal which is necessarily used

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con-1 only for forming an image during regular printing and the software control signal, thereby
attaining improvement in security in the image forming apparatus.
